

REMARKS

The non-final Office Action of April 12, 2004 has been received and carefully reviewed. Accordingly, claim 1 has been canceled and new claims 2-20 have been added which are directed to methods of forming ceramic insulating film or metallic films on an object in a manner similar to that claimed in parent Application No. 09/636,222, now U.S. Patent 6,660,342; therefore, claims 2-20 remain pending of which claims 2, 4, 6, 8, 10, 13, 16 and 18 are independent. In view of the amendments above and the following remarks, further consideration of this application is now requested.

With regard to the Examiner's objections to the specification and drawings, it is believed that with the above amendments to the specification, at pages 4 and 9, as well as with the submission of replacement drawings attached hereto, each of those objections has been rendered moot and should now be withdrawn. Similarly, with regard to the Examiner's formality rejection, under § 112 (second paragraph), the cancellation of claim 1 and addition of new claims 2-20 (each removing the reference to "high frequency") has also rendered the formality rejection moot.

With regard the Examiner's prior art rejection of claim 1, under 35 U.S.C. § 102(b), as being anticipated by the teachings of the Koinuma et al. patent ('300), the Applicants respectfully traverse this rejection.

Initially, it is noted that the invention as presently set forth in the independent claims 2, 4, 10 and 13 is directed to a process of forming insulating ceramic or metallic films on an object by a process including the steps of:

- ...introducing a reactive gas into a reaction chamber;
- applying a pulsed electromagnetic wave to said reactive gas to convert said reactive gas into a plasma;
- applying a continuous electromagnetic wave to said reactive gas so that said continuous electromagnetic wave is superposed on said pulsed electromagnetic wave: and...
- wherein a power value of said pulsed electromagnetic wave is higher than a power value of said continuous electromagnetic wave.

while new claims 8 and 18 are directed to a process of forming insulating ceramic or metallic films on an object by a process including the steps of:

... introducing a reactive gas into a reaction chamber;
applying a pulsed electromagnetic wave to said reactive gas to convert said reactive gas into a plasma;
applying a continuous electromagnetic wave to said reactive gas so that said continuous electromagnetic wave is superposed on said pulsed electromagnetic wave: and...
wherein a frequency of said pulsed electromagnetic wave is different from a frequency of said continuous electromagnetic wave.

Finally, new claims 6 and 16 combine the features of claim 2 and 8 by reciting:

introducing a reactive gas into a reaction chamber;
applying a pulsed electromagnetic wave to said reactive gas to convert said reactive gas into a plasma;
applying a continuous electromagnetic wave to said reactive gas so that said continuous electromagnetic wave is superposed on said pulsed electromagnetic wave; and...
wherein a power value of said pulsed electromagnetic wave is higher than a power value of said continuous electromagnetic wave, and
wherein a frequency of said pulsed electromagnetic wave is the same as a frequency of said continuous electromagnetic wave.

The Applicants assert that the above claimed combination of features is not taught or suggested by Koinuma et al. The patentees set forth no teaching of carrying out the method by applying a pulsed electromagnetic wave to create the plasma and applying a continuous wave electromagnetic superposed on the pulsed electromagnetic wave in which the power value of the pulsed electromagnetic wave is greater than the power value of continuous electromagnetic wave (while the frequency of each is the same).

Since the teachings of Koinuma et al. fail to teach each feature of the invention as presently claimed, the rejection, under § 102(b), of claim 1 is no longer appropriate and must now be withdrawn.


With regard to the rejection of claim 1, under the judicially created doctrine of

obviousness-type double patenting, as being obvious over either claim 8 of Miyanaga et al. ('922) or claim 22 of Miyanaga et al. ('542) taken in view of the teachings of Ohnishi et al. ('712), this rejection has been rendered moot with the cancellation of claim 1.

While the present application is now believed to be in condition for allowance, should the Examiner find some issue to remain unresolved, or should any new issues arise, which could be eliminated through discussions with Applicants' representative, then the Examiner is invited to contact the undersigned by telephone in order that the further prosecution of this application can thereby be expedited.

Lastly, it is noted that a separate Extension of Time Petition (two months) accompanies this response along with an authorization to charge the requisite extension of time fee to Deposit Account No. 19-2380 (740756-2681). However, should that petition become separated from this Amendment, then this Amendment should be construed as containing such a petition. Likewise, any overage or shortage in the required payment should be applied to Deposit Account No. 19-2380 (740756-2681).

Respectfully submitted,

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AMENDMENT TO THE DRAWINGS

Please replace the drawing sheets containing the Figures 1, 3A-3C, 4, 5 and 6A-6C with the attached replacements sheets containing the corrections noted by the Examiner in the Office Action of April 12, 2004 at paragraphs 4.- 6.